

WHAT IS CLAIMED IS:

1. A method of controlling a total mixing system including a first mixing system and a second mixing system, which are operated in a linked manner with each other, the method comprising:

a first storage step for storing first scene data specifying contents of a mixing process matching a scene into said first mixing system;

a second storage step for storing second scene data specifying contents of a mixing process matching a scene into said second mixing system;

a first transmission step for transmitting a scene recall request from said first mixing system to said second mixing system when a recall event of said first scene data occurs in said first mixing system;

a second transmission step for transmitting back a recall enabling response from said second mixing system to said first mixing system after said second mixing system receives said scene recall request;

a first reconstruction step for reconstructing the contents of the mixing process by said first mixing system on the basis of said first scene data after the reception of said recall enabling response by said first mixing system;
and

a second reconstruction step for reconstructing the contents of the mixing process by said second mixing system

on the basis of said second scene data after the transmission of said recall enabling response by said second mixing system.

2. The method according to claim 1, further comprising a recall start command transmission step for transmitting a recall start command to said second mixing system after said recall enabling response is received in said first mixing system,

wherein said first reconstruction step is executed in said first mixing system after the completion of said recall start command transmission step, and said second reconstruction step is executed after the reception of said recall start command by said second mixing system.

3. The method according to claim 2, further comprising a parameter transmission step for transmitting linked parameters of the mixing process linked between the first mixing system and the second mixing system to said second mixing system after the reception of said recall enabling response by said first mixing system,

wherein said recall start command transmission step is executed after the end of said parameter transmission step.

4. The method according to claim 1, wherein the total mixing system includes a plurality of mixing systems which are interconnected to each other, each mixing system being capable of inputting and outputting a talk signal and

outputting a monitor signal, the method further comprising:

a determination step for determining whether said plurality of said mixing systems can operate in a cooperative manner with one another; and

an influencing step for influencing a talk signal in one mixing system to a monitor signal in another mixing system if said plurality of said mixing systems are found capable of operating in a cooperative manner.

5. The method according to claim 4, wherein each of said plurality of said mixing systems has at least one console in which said monitor signal is received and in which a talkback signal is outputted as said talk signal, and wherein

said influencing step mixes the talkback signal in said one mixing system with the monitor signal in said another mixing system.

6. The method according to claim 4, wherein each of said plurality of said mixing systems has at least one console in which said monitor signal is received, a talkback signal is outputted as said talk signal, and a volume of said monitor signal is automatically attenuated at the time of inputting said talkback signal, and wherein

said influencing step also attenuates a volume of a monitor signal in said another mixing system in a cooperative manner when said talkback signal is inputted in said one mixing system and the volume of said monitor signal in said

one mixing system is automatically attenuated.

7. The method according to claim 4, wherein each of said plurality of said mixing systems has at least one console in which said monitor signal is received and a communication signal is received as said talk signal from outside, and wherein

said influencing step mixes said communication signal supplied to said one mixing system with said monitor signal in said another mixing system.

8. The method according to claim 7, further comprising, after said determination step and before said influencing step:

an adding step for adding a communication signal supplied to said one mixing system to a communication signal supplied to said another mixing system; and

a gate step for gating the added communication signal only if a signal level of said added communication signal exceeds a predetermined threshold level.

9. The method according to claim 1, wherein the total mixing system includes a plurality of mixing systems which are interconnected to each other, each mixing system being capable of outputting a talkback signal as the talk signal, the method further comprising:

a determination step for determining whether said plurality of said mixing systems can operate in a cooperative

manner with one another; and

an output step for mixing the talkback signal in one mixing system with the talkback signal in another mixing system and outputting a resultant mixed signal as a talkback output signal in the respective mixing systems if said plurality of said mixing systems are found capable of operating in a cooperative manner.

10. The method according to claim 1, wherein the total mixing system includes a plurality of mixing systems each having a digital mixer for mixing input signals of audio, the method further controlling a mixing process of one digital mixer, the mixing process comprising:

a first adding step for adding a plurality of input signals and outputting an input added signal;

a cascade output step for outputting said input added signal as a cascade signal;

a cascade input step for inputting another cascade signal inputted from another digital mixer;

a delay step for delaying said input added signal;
and

a second adding step for adding said delayed input added signal and said inputted cascade signal with each other and outputting the resultant added signal as a mixing output signal.

11. The method according to claim 10, wherein the mixing

process further comprises an on/off step for turning on or off a link between said one digital mixer and said another digital mixer, such that the second adding step adds said delayed input added signal and said inputted cascade signal and outputs the resultant added signal as a mixing output signal if said link is turned on and otherwise the second adding step outputs said delayed input added signal as a mixing output signal without change if said link is turned off.

12. The method according to claim10, further comprising a determination step for determining whether said one digital mixer is capable of cooperating with said another digital mixer, such that said second adding step adds said delayed input added signal and said inputted cascade signal with each other and outputs the resultant added signal as said mixing output signal if the cooperation is found in said determination step.

13. A method of controlling a mixing system composed of a first console, a second console, and an engine for executing a mixing process, the method comprising:

- a first storage step for storing first control data in said first console for specifying contents of the mixing process to be set to said engine;

- a second storage step for storing second control data in said second console for specifying contents of the

mixing process to be set to said engine; and

a determination step for determining whether there is an inconsistency between said first control data and said second control data when interconnecting said first console and said second console with each other.

14. The method according to claim 13, further comprising a writing step for displaying a screen for prompting whether to match said first control data and said second control data with each other if there is found an inconsistency by said determination step, and then writing said first control data to the second console instead of said second control data at a portion specified to be matched.

15. The method according to claim 13, further comprising a display step for displaying a result display screen on the basis of an operation performed on said first console or said second console for displaying a consistent portion and an inconsistent portion of the second control data relative to the first control data; and

a writing step for writing said first control data to the second console instead of said second control data at the inconsistent portion specified on the basis of an operation performed on said result display screen.

16. A method for controlling a mixing process of a mixing system composed of a first console and a second console each

having a current storage for storing current control data indicative of a current setting state of the mixing process and a control data storage for storing a plurality of control data indicative of a plurality of setting states of the mixing process, and an engine for executing the mixing process, the method comprising:

a transmission step undertaken when an operation for specifying a recall of said control data is performed on one of said first console and said second console for transmitting an operation event indicative of said operation from the console on which said operation has been performed to the other console;

a first update step undertaken by said console on which said operation has been performed for copying the control data specified by said operation among the plurality of the control data stored in said control data storage of said console on which said operation has been performed into said current storage of the console;

a second update step commenced upon reception of said transmitted operation event by the other console for copying the control data specified by said operation among the plurality of the control data stored in said control data storage into the current storage of the other console; and

a mixing control step for controlling the mixing process by said engine on the basis of said control data stored in said current storage of said first console regardless of contents held in said current storage of said

second console.

17. The method according to claim 16, further comprising:

a determination step undertaken when said control data is copied from said control data storage into said current storage of the other console in said second update step for determining whether there is an inconsistency between the control data stored in the current storage of the other console and the control data to be copied; and

a warning step for executing a warning display operation at least on said second console if an inconsistency is found in said determination step regardless of whether said other console is said first console or said second console.

18. A method for controlling a mixing system composed of an engine for executing a mixing algorithm of an audio signal and a plurality of consoles selectively connectable to the engine for monitoring said engine, the method comprising:

a selecting step for selecting an audio signal at a given stage of said mixing algorithm and outputting the selected audio signal as a first monitor signal;

another selecting step for selecting an audio signal at a given stage of said mixing algorithm independently of said first monitor signal and outputting the selected audio signal as a second monitor signal;

a setting step performed under the condition that

only one console is connected to said engine for placing both of said first and second monitor signals into an active state on the basis of a selecting operation performed on said one console;

a first setting step performed under the condition that a plurality of consoles including first and second consoles are connected to said engine for placing said first monitor signal into an active state on the basis of a selecting operation performed on said first console; and

a second setting step performed under the condition that said plurality of said consoles are connected to said engine for placing said second monitor signal into an active state on the basis of a selecting operation performed on said second console.

19. A method for controlling a mixing system composed of an engine for executing a mixing algorithm of an audio signal, and a plurality of consoles selectively connectable for monitoring said engine, the method comprising:

a mixing step performed in said engine under the condition that only one console is connected to said engine for mixing audio signals cue-specified by said one console at one or more stages of the mixing algorithm and outputting a resultant signal to said console as a single cue signal;

a mixing step performed in said engine under the condition that a plurality of consoles including a first console and a second console are connected to said engine for

mixing one or more audio signals cue-specified by said first console and outputting a resultant signal to said first console as a first cue signal;

a mixing step performed in said engine under the condition that said plurality of said consoles are connected to said engine for mixing one or more audio signals cue-specified by said second console and outputting a resultant signal to said second console as a second cue signal;

an on/off step for turning on or off a cue link between the first console and the second console; and

a linking step performed if said cue link is turned on for linking the cue specification in said first console with the cue specification in said second console.

20. A method for controlling a mixing system composed of an engine for executing a mixing algorithm, and a first console and a second console which monitor said engine, the method comprising:

a forming step for forming a first monitor signal on the basis of a selecting operation performed on said first console;

a forming step for forming a second monitor signal on the basis of a selecting operation performed on said second console;

a setting step for setting a first talk state which determines a state of talking operation from said second console to said first console;

a mixing step for mixing a talkback signal in said second console with said first monitor signal on the basis of said first talk state set in said setting step;

a setting step for setting a second talk state determines a state of talking operation from said first console to said second console; and

a mixing step for mixing a talkback signal in said first console with said second monitor signal on the basis of said second talk state set in the setting step.

21. The method according to claim 20, further comprising:

an attenuating step for turning on the input of a talkback signal from said first console in response to a turning-on operation of a talkback switch arranged on said first console so as to attenuate said first monitor signal for said first console;

an attenuating step for turning on the input of a talkback signal from said second console in response to a turning-on operation of a talkback switch arranged on said second console so as to attenuate said second monitor signal for said second console;

an on/off step for turning on or off a link between the attenuation of said first monitor signal and the attenuation of said second monitor signal; and

an attenuating step performed if one of said first monitor signal and said second monitor signal is attenuated under the condition that the link of said attenuation is

turned on for attenuating the other of said first monitor signal and said second monitor signal in cooperation with the attenuated monitor signal.

22. The method according to claim 20, further comprising:

a mixing step for mixing the talkback signal from said first console with the talkback signal from said second console; and

an output step for outputting the mixed talkback signal from said engine as a talkback output signal.

23. A control apparatus for executing a method of controlling a total mixing system including a first mixing system and a second mixing system, which are operated in a linked manner with each other, wherein the method comprises:

a first storage step for storing first scene data specifying contents of a mixing process matching a scene into said first mixing system;

a second storage step for storing second scene data specifying contents of mixing process matching a scene into said second mixing system;

a first transmission step for transmitting a scene recall request from said first mixing system to said second mixing system when a recall event of said first scene data occurs in said first mixing system;

a second transmission step for transmitting back a recall enabling response from said second mixing system to

said first mixing system after said second mixing system receives said scene recall request;

a first reconstruction step for reconstructing the contents of the mixing process by said first mixing system on the basis of said first scene data after the reception of said recall enabling response by said first mixing system; and

a second reconstruction step for reconstructing the contents of the mixing process by said second mixing system on the basis of said second scene data after the transmission of said recall enabling response by said second mixing system.

24. The control apparatus according to claim 23 for executing the method, which further comprises a recall start command transmission step for transmitting a recall start command to said second mixing system after said recall enabling response is received in said first mixing system, such that said first reconstruction step is executed in said first mixing system after the completion of said recall start command transmission step, and said second reconstruction step is executed after the reception of said recall start command by said second mixing system.

25. The control apparatus according to claim 23 for executing the method of controlling a total mixing system,

wherein the total mixing system includes a plurality of mixing systems which are interconnected to each other,

each mixing system being capable of inputting and outputting a talk signal and outputting a monitor signal, and

wherein the method further comprises:

a determination step for determining whether said plurality of said mixing systems can operate in a cooperative manner with one another; and

an influencing step for influencing a talk signal in one mixing system to a monitor signal in another mixing system if said plurality of said mixing systems are found capable of operating in a cooperative manner.

26. The control apparatus according to claim 23 for executing the method of controlling a total mixing system,

wherein the total mixing system includes a plurality of mixing systems which are interconnected to each other, each mixing system being capable of outputting a talkback signal as the talk signal, and

wherein the method further comprises:

a determination step for determining whether said plurality of said mixing systems can operate in a cooperative manner with one another; and

an output step for mixing the talkback signal in one mixing system with the talkback signal in another mixing system and outputting a resultant mixed signal as a talkback output signal in the respective mixing systems if said plurality of said mixing systems are found capable of operating in a cooperative manner.

27. The control apparatus according to claim 23 for executing the method of controlling a total mixing system,

wherein the total mixing system includes a plurality of mixing systems each having a digital mixer for mixing input signals of audio, and

wherein the method further controls a mixing process of one digital mixer, the mixing process comprising:

a first adding step for adding a plurality of input signals and outputting an input added signal;

a cascade output step for outputting said input added signal as a cascade signal;

a cascade input step for inputting another cascade signal inputted from another digital mixer;

a delay step for delaying said input added signal;
and

a second adding step for adding said delayed input added signal and said inputted cascade signal with each other and outputting the resultant added signal as a mixing output signal.

28. A control apparatus for executing a method of controlling a mixing system composed of a first console, a second console, and an engine for executing a mixing process, wherein the method comprises:

a first storage step for storing first control data in said first console for specifying contents of the mixing

process to be set to said engine;

a second storage step for storing second control data in said second console for specifying contents of the mixing process to be set to said engine; and

a determination step for determining whether there is an inconsistency between said first control data and said second control data when interconnecting said first console and said second console with each other.

29. A control apparatus for executing a method of controlling a mixing process of a mixing system composed of a first console and a second console each having a current storage for storing current control data indicative of a current setting state of the mixing process and a control data storage for storing a plurality of control data indicative of a plurality of setting states of the mixing process, and an engine for executing the mixing process, wherein the method comprises:

a transmission step undertaken when an operation for specifying a recall of said control data is performed on one of said first console and said second console for transmitting an operation event indicative of said operation from the console on which said operation has been performed to the other console;

a first update step undertaken by said console on which said operation has been performed for copying the control data specified by said operation among the plurality

of the control data stored in said control data storage of said control on which said operation has been performed into said current storage of the console;

a second update step commenced upon reception of said transmitted operation event by the other console for copying the control data specified by said operation among the plurality of the control data stored in said control data storage into the current storage of the other console; and

a mixing control step for controlling the mixing process by said engine on the basis of said control data stored in said current storage of said first console regardless of contents held in said current storage of said second console.

30. A control apparatus for executing a method of controlling a mixing system composed of an engine for executing a mixing algorithm of an audio signal and a plurality of consoles selectively connectable to the engine for monitoring said engine, wherein the method comprises:

a selecting step for selecting an audio signal at a given stage of said mixing algorithm and outputting the selected audio signal as a first monitor signal;

another selecting step for selecting an audio signal at a given stage of said mixing algorithm independently of said first monitor signal and outputting the selected audio signal as a second monitor signal;

a setting step performed under the condition that

only one console is connected to said engine for placing both of said first and second monitor signals into an active state on the basis of a selecting operation performed on said one console;

a first setting step performed under the condition that a plurality of consoles including first and second consoles are connected to said engine for placing said first monitor signal into an active state on the basis of a selecting operation performed on said first console; and

a second setting step performed under the condition that said plurality of said consoles are connected to said engine for placing said second monitor signal into an active state on the basis of a selecting operation performed on said second console.

31. A control apparatus for executing a method of controlling a mixing system composed of an engine for executing a mixing algorithm of an audio signal, and a plurality of consoles selectively connectable for monitoring said engine, wherein the method comprises:

a mixing step performed in said engine under the condition that only one console is connected to said engine for mixing audio signals cue-specified by said one console at one or more stages of the mixing algorithm and outputting a resultant signal to said console as a single cue signal;

a mixing step performed in said engine under the condition that a plurality of consoles including a first

console and a second console are connected to said engine for mixing one or more audio signals cue-specified by said first console and outputting a resultant signal to said first console as a first cue signal;

a mixing step performed in said engine under the condition that said plurality of said consoles are connected to said engine for mixing one or more audio signals cue-specified by said second console and outputting a resultant signal to said second console as a second cue signal;

an on/off step for turning on or off a cue link between the first console and the second console; and

a linking step performed if said cue link is turned on for linking the cue specification in said first console with the cue specification in said second console.

32. A control apparatus for executing a method of controlling a mixing system composed of an engine for executing a mixing algorithm, and a first console and a second console which monitor said engine, wherein the method comprises:

a forming step for forming a first monitor signal on the basis of a selecting operation performed on said first console;

a forming step for forming a second monitor signal on the basis of a selecting operation performed on said second console;

a setting step for setting a first talk state which determines a state of talking operation from said second

console to said first console;

a mixing step for mixing a talkback signal in said second console with said first monitor signal on the basis of said first talk state set in said setting step;

a setting step for setting a second talk state determines a state of talking operation from said first console to said second console; and

a mixing step for mixing a talkback signal in said first console with said second monitor signal on the basis of said second talk state set in the setting step.

33. A computer program designed to run in a total mixing system including a first mixing system and a second mixing system which are operated in a linked manner with each other for executing a method of controlling the total mixing system, wherein the method comprises:

a first storage step for storing first scene data specifying contents of a mixing process matching a scene into said first mixing system;

a second storage step for storing second scene data specifying contents of mixing process matching a scene into said second mixing system;

a first transmission step for transmitting a scene recall request from said first mixing system to said second mixing system when a recall event of said first scene data occurs in said first mixing system;

a second transmission step for transmitting back a

recall enabling response from said second mixing system to said first mixing system after said second mixing system receives said scene recall request;

a first reconstruction step for reconstructing the contents of the mixing process by said first mixing system on the basis of said first scene data after the reception of said recall enabling response by said first mixing system; and

a second reconstruction step for reconstructing the contents of the mixing process by said second mixing system on the basis of said second scene data after the transmission of said recall enabling response by said second mixing system.

34. The computer program according to claim 33 for executing the method, which further comprises a recall start command transmission step for transmitting a recall start command to said second mixing system after said recall enabling response is received in said first mixing system, such that said first reconstruction step is executed in said first mixing system after the completion of said recall start command transmission step, and said second reconstruction step is executed after the reception of said recall start command by said second mixing system.

35. The computer program according to claim 33 for executing the method of controlling a total mixing system,

wherein the total mixing system includes a plurality

of mixing systems which are interconnected to each other, each mixing system being capable of inputting and outputting a talk signal and outputting a monitor signal, and

wherein the method further comprises:

a determination step for determining whether said plurality of said mixing systems can operate in a cooperative manner with one another; and

an influencing step for influencing a talk signal in one mixing system to a monitor signal in another mixing system if said plurality of said mixing systems are found capable of operating in a cooperative manner.

36. The computer program according to claim 33 for executing the method of controlling a total mixing system,

wherein the total mixing system includes a plurality of mixing systems which are interconnected to each other, each mixing system being capable of outputting a talkback signal as the talk signal, and

wherein the method further comprises:

a determination step for determining whether said plurality of said mixing systems can operate in a cooperative manner with one another; and

an output step for mixing the talkback signal in one mixing system with the talkback signal in another mixing system and outputting a resultant mixed signal as a talkback output signal in the respective mixing systems if said plurality of said mixing systems are found capable of

operating in a cooperative manner.

37. The computer program according to claim 33 for executing the method of controlling a total mixing system,

wherein the total mixing system includes a plurality of mixing systems each having a digital mixer for mixing input signals of audio, and

wherein the method further controls a mixing process of one digital mixer, the mixing process comprising:

a first adding step for adding a plurality of input signals and outputting an input added signal;

a cascade output step for outputting said input added signal as a cascade signal;

a cascade input step for inputting another cascade signal inputted from another digital mixer;

a delay step for delaying said input added signal;
and

a second adding step for adding said delayed input added signal and said inputted cascade signal with each other and outputting the resultant added signal as a mixing output signal.

38. A computer program designed to run in a mixing system composed of a first console, a second console and an engine, for executing a method of controlling a mixing process of the mixing system, wherein the method comprises:

a first storage step for storing first control data

in said first console for specifying contents of the mixing process to be set to said engine;

a second storage step for storing second control data in said second console for specifying contents of the mixing process to be set to said engine; and

a determination step for determining whether there is an inconsistency between said first control data and said second control data when interconnecting said first console and said second console with each other.

39. A computer program designed to run in a mixing system composed of a first console and a second console each having a current storage for storing current control data indicative of a current setting state of a mixing process and a control data storage for storing a plurality of control data indicative of a plurality of setting states of the mixing process, and an engine for executing the mixing process, the program executing a method of controlling the mixing process of the mixing system, wherein the method comprises:

a transmission step undertaken when an operation for specifying a recall of said control data is performed on one of said first console and said second console for transmitting an operation event indicative of said operation from the console on which said operation has been performed to the other console;

a first update step undertaken by said console on which said operation has been performed for copying the

control data specified by said operation among the plurality of the control data stored in said control data storage of said control on which said operation has been performed into said current storage of the console;

a second update step commenced upon reception of said transmitted operation event by the other console for copying the control data specified by said operation among the plurality of the control data stored in said control data storage into the current storage of the other console; and

a mixing control step for controlling the mixing process by said engine on the basis of said control data stored in said current storage of said first console regardless of contents held in said current storage of said second console.

40. A computer program designed to run in a mixing system composed of an engine for executing a mixing algorithm of an audio signal and a plurality of consoles selectively connectable to the engine for monitoring said engine, the computer program executing a method of controlling the mixing system, wherein the method comprises:

a selecting step for selecting an audio signal at a given stage of said mixing algorithm and outputting the selected audio signal as a first monitor signal;

another selecting step for selecting an audio signal at a given stage of said mixing algorithm independently of said first monitor signal and outputting the selected audio

signal as a second monitor signal;

a setting step performed under the condition that only one console is connected to said engine for placing both of said first and second monitor signals into an active state on the basis of a selecting operation performed on said one console;

a first setting step performed under the condition that a plurality of consoles including first and second consoles are connected to said engine for placing said first monitor signal into an active state on the basis of a selecting operation performed on said first console; and

a second setting step performed under the condition that said plurality of said consoles are connected to said engine for placing said second monitor signal into an active state on the basis of a selecting operation performed on said second console.

41. A computer program designed to run in a mixing system composed of an engine for executing a mixing algorithm of an audio signal, and a plurality of consoles selectively connectable for monitoring said engine, the computer program executing a method of controlling the mixing system, wherein the method comprises:

a mixing step performed in said engine under the condition that only one console is connected to said engine for mixing audio signals cue-specified by said one console at one or more stages of the mixing algorithm and outputting a

resultant signal to said console as a single cue signal;

a mixing step performed in said engine under the condition that a plurality of consoles including a first console and a second console are connected to said engine for mixing one or more audio signals cue-specified by said first console and outputting a resultant signal to said first console as a first cue signal;

a mixing step performed in said engine under the condition that said plurality of said consoles are connected to said engine for mixing one or more audio signals cue-specified by said second console and outputting a resultant signal to said second console as a second cue signal;

an on/off step for turning on or off a cue link between the first console and the second console; and

a linking step performed if said cue link is turned on for linking the cue specification in said first console with the cue specification in said second console.

42. A computer program designed to run in a mixing system composed of an engine for executing a mixing algorithm, and a first console and a second console which monitor said engine, the computer program executing a method of controlling the mixing system, wherein the method comprises:

a forming step for forming a first monitor signal on the basis of a selecting operation performed on said first console;

a forming step for forming a second monitor signal

on the basis of a selecting operation performed on said second console;

a setting step for setting a first talk state which determines a state of talking operation from said second console to said first console;

a mixing step for mixing a talkback signal in said second console with said first monitor signal on the basis of said first talk state set in said setting step;

a setting step for setting a second talk state determines a state of talking operation from said first console to said second console; and

a mixing step for mixing a talkback signal in said first console with said second monitor signal on the basis of said second talk state set in the setting step.